



6/18(N.E)  
T. Steptoe  
2-3-03

RESPONSE UNDER 37 CFR 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 2814

PATENT APPLICATION  
Do. No. 9898-217

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jae-Hyun Joo, et al.

Serial No. 10/055,270

Examiner: Anh D. Mai

Confirmation No. 6757

Filed: January 22, 2002

Group Art Unit: 2814

For: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE  
HAVING A METAL-INSULATOR CAPACITOR

BOX AF  
Assistant Commissioner for Patents  
Washington, D.C. 20231

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**AMENDMENT AFTER FINAL REJECTION UNDER 37 CFR 1.116**

Responsive to the Final Office Action, dated November 8, 2002, please amend the application as follows.

**IN THE CLAIMS**

The pending claims, as amended by this paper, should now read as follows:

- Sub. C1  
B1
1. (Twice amended) A method of fabricating a semiconductor device, comprising the steps of:
    - forming a lower electrode on a substrate using a source having carbon;
    - subjecting the lower electrode to a pre-annealing for removing carbon remaining in the lower electrode, wherein the pre-annealing is a thermal annealing under a selected atmosphere;
    - forming a capacitor dielectric layer on the pre-annealed lower electrode, wherein the capacitor dielectric layer is formed of a crystalline material; and



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PATENT APPLICATION  
Do. No. 9898-217

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jae-Hyun JOO and Wan-Don KIM

Serial No. 10/055,270

Examiner: Mai, Anh D

Filed: January 22, 2002

Group Art Unit: 2814

For: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE  
HAVING A METAL-INSULATOR CAPACITOR

BOX AF

Assistant Commissioner for Patents,  
Washington, D.C. 20231

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Responsive to the Office Action dated November 8, 2002, enclosed is an amendment in the above-identified application. The fee has been calculated as shown below.

CLAIMS AS AMENDED					
For:	Number After Amendment	Previous Number	Extra	Rate	Additional Fee
Total Claims	27	29	0	x \$18 =	\$0
Independent Claims	3	3	0	x \$84 =	\$0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$0

\*greater of twenty (20) or number for which fee has been paid

\*\*greater of three (3) or number for which fee has been paid

☒ Any deficiency or overpayment should be charged or credited to deposit account number 13-1703.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



20575

PATENT TRADEMARK OFFICE

Alan T. McCollom  
Reg. No. 28,881

MARGER JOHNSON & McCOLLOM, P.C.  
1030 SW Morrison Street  
Portland, OR 97205  
(503) 222-3613

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ON: 1/21/03